

Appendix 2 – Curriculum Vitae of Dr. Kevin Neels

DR. KEVIN NEELS

Principal

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Dr. Kevin Neels is founder of and Principal at Tampa Bay Economic Consulting. Dr. Neels has more than 35 years experience as a consultant and expert witness in the aviation, rail, trucking, courier, postal, and automotive industries. He has led many significant engagements relating to competition, market structure, pricing, revenue management, distribution strategy, regulation, and public policy. His work has addressed issues related to system planning, competition policy, privatization, and congestion management.

Prior to founding Tampa Bay Economic Consulting Dr. Neels served as Principal and Transportation Practice leader at *The Brattle Group*, and as Vice President and leader of the transportation practice at Charles River Associates. He has also served as a researcher in the Urban Policy Program at the Rand Corporation and the Transportation Studies Program at the Urban Institute, as a Director in the Transportation Practice at the consulting firm of Putnam, Hayes & Bartlett, as a Management Consultant in the Transportation Practice of the firm now known as KPMG. Dr. Neels is a former Chairman of the standing Committee on Freight Transportation Economics and Regulation of the Transportation Research Board, an arm of the National Academy of Sciences. He is currently a member of the Transportation Research Board's standing Committee on Airport and Airway Capacity and Delay.

Dr. Neels has authored numerous research reports, monographs and articles for peer-reviewed journals. He has often been asked to offer expert testimony in legal and regulatory proceedings. He regularly serves as an invited speaker at conferences and industry forums, and his opinions and observations on industry developments are frequently quoted in the popular and trade press. Dr. Neels earned his Ph.D. from Cornell University.

A sample of the project experience of Dr. Neels is shown below.

EXPERIENCE

Airline Industry

- ◆ For a major U.S. network air carrier Dr. Neels was a key member of a team of consultants charged with the development of an operations research strategy aimed at improving the carrier's performance and competitive standing across a broad range of areas of operation, including financial planning, scheduling, crew management, maintenance, flight operations, air cargo sales, marketing, reservations and distribution. This engagement involved extensive onsite interviews with numerous operating personnel at the carrier's headquarters. It identified a lengthy list of investment opportunities involving the application of a variety of advanced decision support tools.
- ◆ For a major international air carrier accused of monopoly leveraging and attempted monopolization of a key market, Dr. Neels prepared a report analyzing the carrier's use of corporate discounts and travel agent override commissions, and rebutting arguments that these agreements could be construed as exclusive dealing.
- ◆ For a major U.S. air carrier, Dr. Neels conducted an extensive empirical investigation of the responses of travel agents to carriers' incentive and override programs. Using the results of this investigation, he evaluated his client's sales force management and travel agent incentive strategies to identify specific ways in which redesign and or retargeting could increase their net revenue yields.
- ◆ Working on behalf of a major air carrier in an antitrust case involving allegations of predatory pricing, Dr. Neels worked directly with the lead litigator for the case to develop a strategy to guide discovery. Subsequently, he conducted a variety of econometric analyses measuring the extent to which plaintiffs were harmed by the alleged predation.
- ◆ For a consortium of major U.S. air carriers accused of engaging in collusion and price fixing, Dr. Neels directed a major economic analysis of industry pricing strategy and pricing dynamics. Drawing upon detailed data on daily fare changes, Dr. Neels prepared testimony and exhibits demonstrating the difficulty of engaging in coordinated pricing behavior.
- ◆ In an antitrust dispute in the airline industry, Dr. Neels was retained by the defendant to critique and rebut damage calculations prepared by experts for plaintiffs. Dr. Neels conducted a detailed analysis of the assumptions underlying plaintiff estimates of lost profits, documenting numerous instances in which specific assumptions were contradicted by industry experience or by business plans prepared by the plaintiff prior to litigation. He showed that correcting these errors resulted in dramatic reductions in estimates of plaintiff damages. The case was eventually dismissed without an award of damages.
- ◆ Dr. Neels assisted in the preparation of statistical exhibits and an expert affidavit for submission by a major U.S. carrier in a rulemaking proceeding regarding airline computerized reservation systems conducted by the U.S. Department of Transportation.
- ◆ To support expert testimony in an antitrust case between two major U.S. air carriers, Dr. Neels developed and estimated a set of statistical models for estimating the effects of GDS display bias on the booking patterns and revenues of the affected airlines. As part of this effort Dr. Neels conducted an extensive analysis of the histories of the carriers in question and of the development

of these computerized systems as the primary channel of distribution for airline tickets. He also prepared damage estimates, assisted in the deposition of opposing expert witness, prepared trial exhibits and advised counsel on cross-examination strategy during the course of the trial.

Airport and Airway System

- ◆ For the Federal Aviation Administration Dr. Neels directed the work of the Brattle Group as part of a major investigation of the economic costs of air travel delay. This work was carried out in collaboration with researchers from the Massachusetts Institute of Technology, the University of California at Berkeley, the University of Maryland, George Mason University and Virginia Tech. The overall investigation conducted a comprehensive inquiry into the consequences of delay, considering its effects on airline operating costs, airline scheduling practices, traveler behavior and overall economic efficiency. The work on Dr. Neels focused on the effects of travel delays on business travelers, and included original research on business traveler trip scheduling practices, on the value of lost time, and on the coping strategies employed by business travelers to minimize the burden of delay. Dr. Neels also played a major role in a macroeconomic analysis of the productivity impacts of delay on travel-intensive sectors of the economy.
- ◆ For the International Air Transport Association, Dr. Neels conducted an analysis and critique of a proposed change in the structure of air traffic control user charges levied on foreign carriers entering the U.S. and overflying its territory. He pointed out a number of serious flaws in the empirical analysis that formed the basis for the new system of charges. Implementation of the new charges was halted by a federal judge.
- ◆ Dr. Neels played a critical role in a project for the Air Transport Association (ATA) of the United States to evaluate proposals for reforming the nation's air traffic control (ATC) system and to develop an effective financial and organizational structure for a reformed ATC. The plan, developed under extremely tight deadlines, required an assessment of ATC technological capabilities, estimation of the cost effects of ATC on the airline industry, an economic analysis of current and proposed ATC organizational forms and detailed financial assessment of proposed ATC entities. Dr. Neels presented his analysis and proposal to airline chief executive officers at a meeting of the ATA board.
- ◆ For the public authority responsible for the operation of one of the largest international gateway airports in the country, Dr. Neels conducted a comprehensive review of sources of information on air cargo movements. Based upon the results of this review, he worked with authority staff to devise a strategy for monitoring trends in shipments by ultimate origin and destination, commodity, carrier and type of service, and for factoring this information into an improved process for planning and executing air cargo facility improvements.
- ◆ For the operator of a major U.S. hub airport, Dr. Neels developed a series of forecasting models for use in evaluating likely passenger responses to the introduction of new types of ground access services.
- ◆ For the government of a Mexican province, Dr. Neels developed a framework for use in evaluating proposals for new airport development.
- ◆ For a conference sponsored by the National Academy of Sciences, Dr. Neels analyzed the policy issues raised by proposals for using pricing to manage demand and reduce delays at major airports.

His analysis used standard antitrust tools to assess the extent of concentration in the market for airport services, and evaluated the potential for anticompetitive behavior in that market.

- ◆ To support the development of an airport system plan for a major metropolitan area, Dr. Neels prepared long-range activity forecasts for air carriers, regional airlines and general aviation.
- ◆ For an international gateway airport, he evaluated the impacts and effectiveness of a wide range of strategies for reducing delays. The policies considered included regulatory constraints on aircraft size, diversion of service to adjacent airports, a variety of pricing and slot allocation mechanisms, and expansion of facility capacity.

Aerospace Manufacturing

- ◆ For a foreign manufacturer of high end business jet aircraft Dr. Neels offered testimony on the structure of the market within which these aircraft are sold and the relationship between this market and the market aftermarket retrofits and modifications. His testimony examined the turnover of the existing fleet of high end business jet aircraft, trends over time in resale values, the relationship between new aircraft sales and trade-ins of previously owned aircraft, and the factors influencing the commercial success of aftermarket modifications under FAA supplemental types certificates.
- ◆ For a consortium of aerospace manufacturers, Dr. Neels examined and evaluated the economic, financial and policy arguments for including manufacturers as members of government sponsored insurance against war and terrorism risks. His analysis examined the nature of the risks in question, the state of the commercial market for insurance against them, the realities of multi-party tort litigation in settings where the parties enjoy dramatically different levels of insurance coverage, and the likely long-term economic impacts if aerospace manufacturers were because of the shut down of the commercial insurance market, forced involuntarily to self-insure against these risks.
- ◆ For a major manufacturer of business jet aircraft accused of monopoly leveraging and attempted monopolization Dr. Neels conducted an analysis of the structure of the business jet aircraft market, evaluating the extent to which availability of comparable models from other manufacturers constrained the ability of the defendant in the dispute to exercise market power.
- ◆ For a U.S. based manufacturer of business aircraft, Dr. Neels quantified the damages resulting from significant defects in a major subcontractor-supplied aircraft component. These defects had resulted in a number of plane crashes and the eventual grounding of a significant portion of the manufacturer's fleet. Dr. Neels developed a sophisticated econometric model that controlled for the effects of a number of market-related background factors, and isolated the effects of the component defects on sales, revenues and profits.
- ◆ For a manufacturer of high end business jet aircraft involved in a dispute over the closure of a manufacturing plant, Dr. Neels offered expert testimony on the status of the business jet aircraft market at the time of the closure and its effects on new orders, backlog and revenue for the manufacturer. His analysis focused in particular on the effects on the business jet aircraft market of the economic downturn that began in 2001 and the events on September 11, 2001. In response to testimony offered by opposing experts, he also analyzed the decision making process that led to closure of the plant, the options open to management, and the economic justifications for closing the plant.

Freight Transportation

- ◆ For an Ex Parte proceeding before the Surface Transportation Board Dr. Neels provided written testimony regarding procedures for settling disputes over the reasonableness of rail transportation rates. His testimony related to aspects of the Standalone Cost methodology employed by the Board in resolving these disputes, focusing in particular on the role that third party traffic plays in such analyses, and the manner in the revenues associated with such traffic are assigned to different portions of the routes followed by such traffic. His testimony discussed the typical structure of North American freight rail networks, and the roles that gathering, branch and main lines play in assuring the overall economic viability of the network as a whole.
- ◆ For a major U.S. based freight railroad, Dr. Neels developed a system of models to predict traffic levels and revenues by carrier for the North American freight rail market under alternative scenarios regarding market structure and regulatory policy. This modeling system incorporated detailed representations of the North American rail and highway networks, algorithms for determining shipment routing under alternative operating policies, and a series of statistical models capturing the underlying structure of freight traffic flows.
- ◆ For a non-U.S. government client, Dr. Neels led the team serving as fairness advisors in connection with the privatization of a government owned railroad. This engagement involved review of and commentary upon the bidding procedures employed in the transaction, analysis of the extent to which different bidders addressed and resolved policy concerns expressed by government officials, and advising government officials regarding the extent to which the various bids received reflected the full market value of the operation.
- ◆ On behalf of a provider of services to long-distance trucking firms, Dr. Neels offered expert testimony on the status of the trucking market, and on the extent to which a downturn in that market affected the value and economic viability of trucking firm service providers during a period in which his client concluded a series of acquisitions.
- ◆ In testimony before the U.S. Postal Rate Commission, Dr. Neels offered expert testimony analyzing the procedures used by the U.S. Postal Service to measure the transportation costs associated with its various products. His analysis addressed a wide range of issues, including the Service's use of its dedicated air network for transportation of expedited products, fieldwork procedures used to collect data on composition of the mail stream at different points in the rail network, potential biases in the assignment of transportation costs to products, and flaws in econometric analyses of transportation cost variability introduced by other witnesses in the proceeding.
- ◆ In support of a key economic witness in a hearing regarding refined petroleum product pipeline rates before the Federal Energy Regulatory Commission, Dr. Neels conducted an analysis of the relationship between product prices in the different geographic areas linked by the pipeline system. He also examined alternative transportation modes and concentration in the pipeline's origin markets.
- ◆ For a major U.S. railroad involved in a commercial dispute over trackage rights and trackage fees, Dr. Neels conducted a detailed analysis of over-the-track incremental operating costs. This analysis involved, among other things, extensive use of the Uniform Rail Costing System maintained by the Surface Transportation Board.

- ◆ For a major North American rail car manufacturer involved in a patent infringement lawsuit Dr. Neels offered expert testimony on the economic value of an innovative car design relative to existing designs, and on the damages imposed on the manufacturer as a result of infringement of its patents on this new design.
- ◆ For an express package delivery carrier intervening in a rate case before the U.S. Postal Rate Commission, Dr. Neels conducted a critical review of econometric studies of cost variability introduced into evidence by a witness testifying on behalf of the U.S. Postal Service. He identified a number of serious conceptual and methodological flaws in this analysis, and demonstrated that the substantive conclusions of the analysis were sensitive to relatively minor change in its design. On the basis of his testimony the Commission rejected the arguments of the Postal Service in the Commission's final ruling.

Automotive Industry

- ◆ For a group of automobile dealers, he conducted an econometric analysis to quantify the extent to which these dealers had suffered economic injury as a result of a scheme in which executives of the auto manufacturer accepted bribes from a subset of dealers in exchange for providing them with extra allotments of highly profitable car models. The settlement of this litigation awarded a payment of several hundred million dollars to the non-bribe paying dealers.
- ◆ For a major auto manufacturer contemplating litigation over an alleged theft of trade secrets, he developed a system of economic forecasting models to calculate the effects of the theft of sales of the company's products in a number of major international markets. Results of this confidential investigation played a key role in the company's subsequent decision to seek redress through the courts.
- ◆ For a group of automobile dealers engaged in a dispute with a distributor, Dr. Neels offered expert testimony analyzing the new auto allocation procedures used by the distributor, the distributor's policies regarding accessorization of new vehicles, and their economic effects of individual dealers. This work involved extensive econometric modeling of the dynamics of dealer inventories and the determinants of time to sale for individual vehicles.
- ◆ For a consortium of U.S., European and Japanese auto manufacturers and related firms, Dr. Neels played a key role in a major investigation of long-term trends in mobility. This study was worldwide in scope, addressing urban, rural and intercity passenger and freight transportation in both the developed and the developing world. Its particular focus was on the sustainability of the current transportation system, and the extent to which exhaustion of fossil fuels, environmental constraints, infrastructure shortages or institutional barriers were likely to constrain mobility over the next several decades.

Other Project Experience

- ◆ For an operator of vehicle and passenger ferry services to offshore islands, Dr. Neels conducted a detailed analysis of fares, costs, market structure, the extent to which particular services are subsidized, the structure of the market for ferry services, and the likely effects of changes in conditions of entry.

DR. KEVIN NEELS

7

- ◆ For a major U.S. manufacturer that had been the target of industrial espionage and the organized theft of technology and other trade secrets, Dr. Neels offered testimony involving the stolen technology and, using a reasonable royalties approach, the damages suffered by the U.S. manufacturer as a result of the theft. At the conclusion of a jury trial in the United States, the manufacturer received a substantial damage award.
- ◆ For the U.S. Department of Energy, Dr. Neels conducted an extensive investigation of the technological, institutional and economic factors influencing the demand for residential heating fuels.
- ◆ For a Gas Research Institute study of natural gas usage in the steel industry, Dr. Neels provided consultation on statistical issues and worked closely with a team of analysts examining the economics of fuel substitution.
- ◆ Dr. Neels directed the team of economists responsible for conduct of the damages study for plaintiff in a major patent infringement lawsuit in the consumer products industry. His work included development of econometric models to forecast product sales in eight major world markets, analysis of the effects of incremental changes in sales volumes on company profits, review of historical pricing strategies and calculation of economic damages for a wide range of “but-for” pricing and product introduction strategies. He and his team also played a key role in the analysis of the case put forth by the opposing side and in the development of cross-examination strategies for opposing expert witnesses. He was designated as an expert witness in this matter, but was not called upon to testify.
- ◆ As leader of a project funded jointly by the Ford Foundation, the U.S. Department of Housing and Urban Development and a consortium of local corporations, Dr. Neels directed a year-long study by the Rand Corporation of strategies for privatizing municipal services in Saint Paul, Minnesota. A major component of this project was a detailed analysis of the incentives created by different financing mechanisms, organizational structures and personnel management systems. Findings of the study were published in a major report entitled *The Entrepreneurial City*.
- ◆ Dr. Neels played a major role in the preparation of expert testimony on behalf of a group of major domestic oil companies accused of conspiring to depress the prices paid to producers of a major input to tertiary oil recovery projects. This testimony focused on an examination of purchase contracts involving the defendants to establish market prices for the input in question over the alleged damage period.
- ◆ For the New York State Science and Technology Foundation, Dr. Neels participated in a project to facilitate the transfer to civilian firms and the commercial exploitation of photonics technology developed for military applications at a research center established at a major New York State military installation. This project included an assessment of the commercial value of the technology, the identification of firms in the vicinity of the research center with the research focus and capabilities to absorb the technology, and the design of institutional mechanisms for facilitating and supporting technology transfer.

PUBLICATIONS

“The Economic Cost of Airline Flight Delay”. With Everett B. Peterson, Nathan Barczi and Thea Graham. *Journal of Transport Economics and Policy*, Volume 47, Part 1 (January 2013): 107-121.

“Federal Funding of Transportation Improvement in BRAC Cases.” Transportation Research Board (2011).

“Private Sector: Lessons for the Public Sector” in Freight Modeling:State of the Practice in Current Practice Session of *Freight Demand Modeling Tools for Public-Sector Decision Making* in Conference Proceedings 40, Transportation Research Board, September 25-27, 2006, pp. 25,26.

“Pricing-Based Solutions to the Problem of Weather-Related Airport and Airway System Delay.” *Air Traffic Control Quarterly*, Vol 10(3) 261–284 (2002).

“Congestion, Pricing and the Economic Regulation of Airports.” Transportation Research Board, The Federal Aviation Administration, Conference on Airports in the 21st Century (April 20, 2000).

“Estimating the Effects of Display Bias in Computer Reservation Systems.” With Franklin Fisher, In *Microeconomics Essays in Theory and Applications*. Ed. Maarten-Pieter Schinkel. Cambridge University Press, 1999.

“Clinical and Economic Value of Cardiovascular Nuclear Medicine.” With Carla Mulhern. (September 1996).

“Insurance Issues and New Treatments.” *Journal of the American Dental Association*, 125 (January 1994): 45S-53S.

“Medical Cost Savings from Pentoxifylline Therapy in Chronic Occlusive Arterial Disease.” *Pharmacoconomics* 4, No. 2, (February 1994): 130-140.

“Analyzing Rent Control: The Case of Los Angeles.” With M. P. Murray, C. P. Rydell, C. L. Barnett, and C. E. Hillestad. *Economic Inquiry* 29, No. 4 (October 1991): 601–625.

“Forecasting Intermodal Competition in a Multimodal Environment.” With Joseph Mather. *Transportation Research Record* 1139 (1987).

“Modeling Mode Choice in New Jersey.” With Joseph Mather. *Transportation Research Record* 1139 (1987).

“Direct Effects of Undermaintenance and Deterioration.” With C. Peter Rydell. In *The Rent Control Debate*. Ed. Paul L. Niebanck. Chapel Hill, NC: University of North Carolina Press, 1985.

“Energy and the Existing Stock of Housing.” With M. P. Murray. In *Energy Costs, Urban Development, and Housing*. Ed. Anthony Downs and Katherine L. Bradbury. Washington, D.C.: The Brookings Institution, 1984.

“Reducing Energy Consumption in Housing: An Assessment of Alternatives.” *International Regional Science Review* 7, 1 (May 1982).

“Production Functions for Housing Services.” *Papers of the Regional Science Association* 48 (1981).

PROFESSIONAL AFFILIATIONS

- ◆ American Bar Association
- ◆ American Economics Association
- ◆ Licensing Executive Society
- ◆ Transportation Research Board

TESTIMONY

Before the U.S. District Court, District of Delaware Division, Expert Testimony in the matter of PACT XPP Schweiz AG v. Intel Corporation, Case No. C.A. No 19-1006 (JDW), May, 2022.

Before the Surface Transportation Board, Reply of the Kansas City Southern Railway Company, Verified Statement, Finance Docket No. 32760 (Sub-No.46), May, 2021.

Before the Surface Transportation Board, Reply of the Kansas City Southern Railway Company, Verified Statement, Finance Docket No. 32760 (Sub-No.46), April, 2021

Before the Surface Transportation Board, Reply of the Kansas City Southern Railway Company, Verified Statement, Finance Docket No. 32760 (Sub-No.46), January, 2021.

Before the U.S. District Court, Southern District of California, San Diego Division, Expert Testimony in the matter of Nuvasive, Inc. v. Alphatec Holdings, Inc., Case No. 3:18-CV-00347-CAB-MDD, June, 2018.

Before the American Arbitration Association (pursuant to an Order of the U.S. District Court for the District of Kansas), Expert Testimony in the matter of Dodson International Parts, Inc., v. Williams International Co., LLC, Civil Action 2:16-cv-02212-JAR-JPO, March, 2018.

Before the Supreme Court of the State of New York, County of New York, Expert Report in the matter of Xaleron Pharmaceuticals, Inc., v. Actavis, Inc. et al., Index No.: 150587/2016, November, 2017.

Before the U.S. District Court, Southern District of New York, Evansville Division, Expert Report in the matter of Richard Schoninger et al., v. James Green et al., Civil Action No. 15-CV-2233-PAC, February, 2017.

“Reply Report of Dr. Kevin Neels and Dr. Nicholas Powers to Accompany UPS Reply Comments,” Report on Behalf of the United Parcel Service, Docket No. RM2016-12, November, 2016.

Before the Postal Regulatory Commission, Washington, D.C., Reply Report on Behalf of United Parcel Service, Docket No. RM2016-2, March 2016.

Before the U.S. International Trade Commission, Expert Report in the matter of Certain Activity Tracking Devices, Systems, and Components thereof, Investigation No. 337-TA-963, February, 2016.

Before the Postal Regulatory Commission, Washington, D.C., Report on Behalf of United Parcel Service, Docket No. RM2016-2, October 2015.

Before the United States District Court, Southern District of California, Expert Report Regarding Damages to Warsaw Orthopedic, Inc., Case No. 08-CV-01512-CAB (MDD), September 2015.

Before the Surface Transportation Board, Reply of the Kansas City Southern Railway Company, Verified Statement, Finance Docket No. 32760 (Sub-No.46), August 2015.

Before the Postal Regulatory Commission, Washington, D.C., Supplemental Report on Behalf of United Parcel Service, Docket No. RM2015-7, June 2015.

Before the Postal Regulatory Commission, Washington, D.C., Report on Behalf of United Parcel Service, Docket No. RM2015-7, March 2015.

“A Review of the Pipeline and Hazardous Materials Safety Administration’s Draft Regulatory Impact Analysis,” with Mark Berkman, prepared for The Railway Supply Institute, Committee on Tank Cars, submitted in Pipeline and Hazardous Materials Safety Administration Notice of Proposed Rulemaking for Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains, Docket No. PHMSA-2012-0082 (HM-251), November 2014.

Before the U.S. District Court, Southern District of Indiana, Evansville Division, Expert Report in the matter of Berry Plastics Corporation v. Intertape Polymer Corporation, Civil Action No. 3:10-cv-0076-RLY WGH, April 1, 2014.

Before the United States International Trade Commission, Washington, D.C., Expert Report in the matter of Crawler Cranes and Components Thereof, Investigation No. 337-TA-887, December 23, 2013.

Before the U.S. District Court, Central District of California, Declaration in the matter of Otto Bock Healthcare, LP v. Ossur HF and Ossur Americas, Inc., August 2013.

Before the Surface Transportation Board, Docket No. FD 35654, Verified Statement in the Genesee & Wyoming, Inc., Control, RailAmerica Inc., et. al., July 2012.

Confidential Expert Report Subject to the Protective Order

Appendix 3: List of Materials Considered

<u>Report Sources</u>	<u>Bates Number or Website (when applicable)</u>
<i>Contracts and Agreements Related to Aircraft Leases</i>	
• 2020 Framework Agreement with AMCK Aviation Holdings Ireland Limited	FRONTIER0002829-81
• CDB Aviation Letter of Intent dated June 29, 2020	FRONTIER0011290-321
• Jackson Square Aviation Letter of Intent dated October 7, 2020	FRONTIER0012136-44
• MSN 9549 Lease Agreement	FRONTIER0011322-463
• MSN 9549 Sale & Leaseback Agreement	FRONTIER0011464-99
• MSN 10031 Lease Agreement	FRONTIER0011500-641
• MSN 10031 Sale & Leaseback	FRONTIER0011642-77
• MSN 10038 Lease Agreement	AMCK014555-718
• MSN 10089 Lease Agreement	FRONTIER 0011678-819
• MSN 10089 Sale & Leaseback Agreement	FRONTIER0011820-55
• MSN 10384 Lease Agreement	FRONTIER0011912-2023
• MSN 10384 Sale & Leaseback Agreement	FRONTIER0011856-83
• MSN 10452 Lease Agreement	FRONTIER0012024-135
• MSN 10452 Sale & Leaseback Agreement	FRONTIER0011884-911
• Amendment No. 9 to A320 Family Aircraft Purchase Agreement, May 4, 2020	FRONTIER0005667-78
<i>Deposition Transcripts</i>	
• Deposition of Fabian Bachrach, March 15, 2022	
• Deposition of Sharath Sashikumar Bindu, April 1, 2022	
• Deposition of James Dempsey, April 6, 2022	
• Deposition of Robert Fanning, April 4, 2022	
• Deposition of Francis Lee, April 29, 2022	
• Deposition of Gerald Ma, April 27, 2022	
• Deposition of Michael McInerney, March 11, 2022	
• Deposition of Ronan Murphy, March 21, 2022	
• Deposition of Jane O'Callahan, March 23, 2022	
• Deposition of Paul Sheridan, March 25, 2022	
• Deposition of Spencer Thwaytes, March 30, 2022	
<i>Public Sources</i>	
• Data on 2019 Available Seat Miles from BTS T1	
• FAA Registry Search Results - MSN 9549	
• FAA Registry Search Results - MSN 10031	
• FAA Registry Search Results - MSN 10089	
• FAA Registry Search Results - MSN 10384	
• FAA Registry Search Results - MSN 10452	
• Frontier 10-K Form for the Year Ending December 31, 2021	
• Frontier Group Holdings Inc. Form S-1 filed on Mar-08-2021.pdf	
• The Stata Blog » Use poisson rather than regress; tell a friend.pdf	
• National Research Council 2011. Reference Manual on Scientific Evidence: Third Edition. Washington, DC: The National Academies Press.	https://doi.org/10.17226/13163
• Richard A. Brealey, Stewart C. Myers, and Franklin Allen, "Principles of Corporate Finance." 12th edition.	
• Market Yield on U.S. Treasury Securities at 10-Year Constant Maturity (FRED	https://fred.stlouisfed.org/series/GS10
• "AMCK Aviation: Lessor," CAPA Centre for Aviation	https://centreforaviation.com/data/profiles/lessors/amck-aviation
• Investopedia, "An Economic Analysis of the Low-Cost Airline Industry"	https://www.investopedia.com/articles/investing/022916/economic-analysis-lowcost-airline-industry-luvdal.asp
• Wikipedia, "List of low-cost airlines"	https://en.wikipedia.org/wiki/List_of_low-cost_airlines
• Scott's Cheap Flights, "The Best and Worst Budget Airlines for Domestic Flights"	https://scottscheapflights.com/guides/the-best-and-worst-budget-airlines-for-us-domestic-flights

Confidential Expert Report Subject to the Protective Order

Other Materials Considered

- Complaint Dated November 18, 2020
- Amended Complaint in Frontier Airlines v. AMCK et al., Case No. 1:22-cv-02943
- Dato Capital Report on Accipiter Finance, dated May 25, 2022
- Slide titled "AMCK/Carlyle Acquisition Structure Based on the HK Stock Exchange Disclosure"
- "Disposals of Accipiter Finance S.A R.L. and Manchester Aviation Finance S.A.R.L," dated December 24, 2021
- CK Asset Holdings Ltd Corporate Structure Chart (7-9-20).pdf AMCK004944
- AMCK Aviation Financial Statements for the year ended 31 December 2020
- Letter of Status from Companies Registration Office re: AMCK Aviation Holdings Ireland Limited, dated May 17, 2022
- May 24, 2022 letter from Drew Fine to Howard Diamond
- Email from Sharath Sashikumar Bindu dated October 7, 2020 FRONTIER0008478
- AMCK Comparison_10.07.20.xlsx FRONTIER0008479
- Bloomberg WACC Data - US Airlines
- Bloomberg LIBOR USD Rates for September 2020
- Bloomberg USSW9 Rates for July 2020 to April 2021

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Dr. Powers specializes in conducting econometric and economic analysis and applying concepts from industrial organization and regulatory economics in competition, regulatory, and other litigation matters, with a focus on the transportation sector.

Dr. Powers frequently provides economic analysis of cartel behavior, and assessment of liability and damages in matters concerning alleged collusion. He also has experience analyzing the competitive effects of proposed mergers and exclusionary practices. Additionally, he conducts similar econometric work in antitrust and regulatory matters in the electric, postal, transportation, and other industries.

In regulatory proceedings, Dr. Powers has extensive experience conducting analysis for and submitting expert reports that often involve regulatory costing or rate-making issues. This includes extensive analysis of regression-based costing models and other economic issues in the postal industry, econometric analysis of the load impacts of innovative pricing programs in the electric industry, and rate of return analysis in the telecommunications industry. He has also acted as both an independent evaluator and an advisor to several procurement processes in the electricity sector, involving renewable energy, transmission capacity, and other energy products.

Dr. Powers also has varied experience in the electricity industry. This includes conducting damages assessments in litigation matters and analyses of price effects, market power, and anticompetitive behavior in several litigation proceedings arising from the California electricity crisis of 2000–2001. He has also analyzed the cost and feasibility of renewables-only energy portfolios.

AREAS OF EXPERTISE

- Antitrust & Competition
- Collaborations & Cartels

- Electricity Litigation & Regulatory Disputes
- Regulatory Economics, Finance & Rates
- Transportation

EDUCATION

- **University of Michigan, Ross School of Business**
PhD in Business Economics
- **Cornell University**
BS in Applied Economics and Management

PROFESSIONAL EXPERIENCE

- **The Brattle Group (2010–Present)**
Principal (2021–Present)
Senior Associate (2013–2020)
Associate (2010–2013)

TESTIMONY

- Before the Pennsylvania Public Utility Commission | Docket Nos. R-2021-3030012, R-2021-3030013, R-2021-3030014, R-2021-3030021. | Direct and Rebuttal Testimony of James D. Reitzes and Nicholas E. Powers (December 2021 – March 2022)
- ***Turo Inc. v. City of Los Angeles*** | The United States District Court, Central District of California Western Division | *Case 2:18-cv-06055-CAS-GJS, Document 1* (January 2022)
- Three Expert Reports submitted to the District Court of Amsterdam (Case No. C/13/486440: C/13/561169 Equilib), 2019 and 2020, on behalf of claimants, related to the estimation of the volume of commerce and the overcharge methodology involving an alleged cartel agreement among major international airlines pertaining to fuel surcharges.

SELECTED CONSULTING EXPERIENCE

ANTITRUST

- In a large civil case concerning alleged collusion in the corrugated packaging industry, executed the econometric analysis forming the basis of a report critiquing plaintiff's damages estimates. Supported the expert testimony of Nobel laureate Daniel McFadden.
- On behalf of purchasers of air cargo (plaintiffs) in a class action civil suit, conducted econometric and other statistical analyses in order to estimate economic damages from alleged price-fixing. Supported the expert testimony of Nobel laureate Daniel McFadden.
- Advise counsel representing a large multinational industrial firm by estimating overcharges stemming from a series of price-fixing conspiracies covering several input commodities.
- In European air cargo price-fixing matter, co-authored expert reports on volume of commerce and overcharge methodology issues. Presented results of volume of commerce analysis and opinion on overcharge methodology to Court of Amsterdam.
- Supported expert report quantifying damages in rail freight fuel surcharge antitrust litigation.
- Analysis of confidential waybill sample data to identify potential competitive concerns from a proposed railroad merger.
- Assessed and advised counsel on potential competitive concerns in mergers and transactions in a variety of industries, including music data, hospital beds, venue management, and specialized B2B software.
- Analyzed the anti-competitive impacts resulting from a proposed merger in the television broadcast industry.
- Performed econometric estimates of the price effects resulting from competitor entry and exit in geographic product markets to support expert testimony that assessed anti-competitive effects from a proposed joint venture in the airline industry.
- Conducted econometric analysis in evaluation of expert testimony that sought to quantify network effects in the payment card industry.
- Identified flaws in the econometric analysis of opposing experts in the context of settlement negotiations arising from price-fixing allegations in the plastics manufacturing industry.
- Oversaw preparation of expert report and quantification of damages, on behalf of plaintiffs, stemming from exclusionary conduct in the cotton industry.

- Supported testifying expert, on behalf of plaintiffs, in a competition matter related to vertical restraints in the carpet industry.

REGULATORY

- On behalf of United Parcel Service, manage analysis and provide expert services in several regulatory dockets before the Postal Regulatory Commission. Apply regulatory economic principles and econometric expertise to detailed knowledge of USPS costing models; provide input on economic arguments and regulatory strategy. Conducted econometric analyses and assisted in the preparation of reports and filings in a number of Dockets before the Postal Regulatory Commission, including Dockets No. ACR2014, RM2015-7, RM2016-2, RM2017-1, RM2020-9, RM2022-2, and RM2022-3. Co-authored expert report critiquing a proposed change to costing principles in the Purchased Highway Transportation cost segment, in Docket No. RM2016-12.
- On behalf of a coalition of mailer associations, submitted expert declaration critiquing aspects of changes to the system for regulating Postal Service rates for market dominant products as proposed by the Postal Regulatory Commission in Docket No. RM2017-3.
- Managed the analysis in support of multiple verified statements filed in a railroad trackage rights proceeding before the Surface Transportation Board, leveraging the Brattle Rail Network Model.
- For FirstEnergy's Pennsylvania utilities, sponsored witness testimony before the Pennsylvania Public Utility Commission, analyzing the cost and risk associated with the Companies' proposed default service supply plans. Analysis included estimates of the implied price premium for covering volumetric and pricing risk that was associated with past procurements of full-requirements power supplies, showing that this premium was relatively modest in size.
- For multiple regulated utilities in Pennsylvania, on multiple occasions, designed and managed the procurement of solar photovoltaic alternative energy credits (SPAECs). Responsibilities included: (i) designing the auction rules and bid forms; (ii) building a financial model to determine the likely value of the solar energy credits; (iii) providing a benchmarking study to determine if the bids were reflective of market fundamentals; and (iv) drafting a report to the Pennsylvania Public Utility Commission to secure approval of the procurements.
- For multiple transmission developers, on multiple occasions, served as independent manager of open solicitation processes. Responsibilities include filing a short report with the Federal Energy Regulatory Commission.

- In conjunction with a Maryland Public Service Commission-mandated time-of-use (“TOU”) pricing pilot, analyzed the impacts of TOU prices on peak load and conservation in three Maryland electric utilities. Designed and implemented a matching-based regression methodology.
- For an express package delivery carrier, managed the construction of an integrated Excel-based cost and demand financial forecasting model of the United States Postal Service (USPS), based on public USPS data and filings in previous Postal Regulatory Commission dockets.
- For an expert report submitted as part of a revenue requirements proceeding, benchmarked BC Hydro’s non-fuel operations and maintenance costs against those of US investor-owned utilities.
- Submitted an expert report analyzing the rate of return of a land-based telecommunications network in Alaska for a proceeding before the Federal Communications Commission.
- On behalf of Growth Energy, coauthored a report analyzing the role that higher ethanol blends of gasoline (E85) could play in meeting the proposed 2017 renewable volume obligations (RVOs) under the Renewable Fuel Standards (RFS) program. The report was filed with Growth Energy’s comments in the Environmental Protection Agency’s rulemaking docket regarding proposed renewable fuel standards.
- Researched alternative rate plans and presented results to senior management of a mid-sized electric utility as part of a regulatory strategy consulting engagement.
- For a mid-Atlantic utility, estimated economic benefits to ratepayers from natural gas service, as portion of eventual PUC filing justifying investments related to storm resilience of distribution system.

OTHER SELECTED LITIGATION AND TRANSPORTATION EXPERIENCE

- For an American passenger airline, conducted damages analysis in support of expert testimony for litigation related to breach of lease agreements.
- For a European passenger airline, conducted damages analysis in support of expert testimony for litigation related to the grounding of the Boeing 737-MAX.
- For the City of Los Angeles, submitted expert testimony analyzing the economic arguments for airport rental car regulations, and assessing potential economic harms from uneven application of those regulations.
- Advised the Cincinnati Southern Railway Board of Trustees regarding the railroad’s fair market valuation in support of its negotiations with Norfolk Southern.

- In a lawsuit brought by the City of Ontario, CA against Los Angeles World Airports, evaluated the reliability of plaintiff's claim for damages in excess of \$3 billion for alleged mismanagement of the Ontario airport.
- For a class of Australian owners of Volkswagen vehicles, analyzed the impact of the diesel emissions issue on resale prices for VW vehicles affected by non-compliant emissions "defeat devices."
- Managed analysis for life cycle assessment of greenhouse gas emissions associated with a proposed railroad.
- Co-authored white paper analyzing the effectiveness of the current rail car hire system, and identifying alternative default rate-setting rules that would incentivize and support investment in the nation's car hire fleet.
- Manage the development and maintenance of the Brattle Rail Network Model, a geocoded database of all rail lines in the United States. Information contained in the database identifies for each rail segment in the database which railroad or railroads own the facility, and which railroads, if any, possess trackage rights allowing them to operate over that facility.

OTHER ENERGY AND ENVIRONMENTAL

- For the California parties, conducted several key pieces of analysis evaluating effects of tariff violations in the summer of 2000 on CAISO market prices and drafted portions of expert testimony, in a litigation matter before the FERC arising from the California electricity crisis.
- For the California parties, conducted econometric analyses detecting the exercise of market power and price discrimination in the 2001 "CERS" period of the California electricity crisis. This analysis formed the basis of key parts of the testimony of two expert witnesses.
- Supervised the analysis for four cases in support of testimony relating to alleged New Source Review (NSR) violations at coal-fired power plants. For a Southeastern power cooperative, analysis of government's claims included examination of alternative baseline emission calculations, analysis of changes in fuel quality, and evaluation of long-run patterns in utilization, generation, and emissions, as well as econometric analysis of the determinants of emissions. For a Midwestern utility, analysis consisted of identifying long-term trends in pricing strategy, market dispatch outcomes, and emissions prices to inform PROMOD runs in order to generate emissions projections that are consistent with NSR regulations. For a Mid-Atlantic utility, the analysis focused on long-run variation in coal

plant operations, including analysis of changing market conditions that influenced that variation.

- For a valuation matter concerning a back-office IT services provider to retail energy suppliers, supervised the analysis for and supported industry witness in a report assessing the status and prospects of the retail energy service business in restructured states.
- For the Department of Energy and Pacific Northwest National Laboratory, coauthored a baseline report on electric transmission, distribution, and storage infrastructure in the United States as part of the inaugural Quadrennial Energy Review process.
- For the Department of Energy and Pacific Northwest National Laboratory, coauthored a report on the valuation of electric power systems and technologies as part of the Quadrennial Energy Review process.
- Coauthored a report analyzing the economics and reliability of alternative energy portfolios (approaching 100% renewable power) for the City of Memphis.
- For a Southeastern generation and transmission electric cooperative, oversaw preparation of expert damages report and advised counsel on same in the context of an arbitration proceeding stemming from an alleged breach of contract.
- Advised a large nonprofit energy buying consortium in a procurement of retail electric service for their members, assessing offers over a variety of products, services, and geographic areas, and assisting in negotiations with several large retail electric suppliers.
- For a utility in the Southeastern United States, conducted a review of NERC region load forecasts. This consisted of econometric analysis to weather-normalize actual loads and evaluate the portion of the forecast error that could be attributed to variations in weather.

EXPERT REPORTS AND REGULATORY FILINGS

- “PC44 Time of Use Pilots: End-of-Pilot Evaluation,” with Sanem Sergici, Ahmad Faruqui, Sai Shetty, and Ziyi Tang, prepared for Maryland Joint Utilities and Filed with the Maryland Public Utility Commission (October 4, 2021)
- “PC44 Time of Use Pilots: Year 1 Evaluation,” with Sanem Sergici, Ahmad Faruqui, Sai Shetty, and Jingcheng Jiang, prepared for Maryland Joint Utilities and filed with the Maryland Public Utility Commission (September 15, 2020)

- “Expert Declaration of Kevin Neels and Nicholas Powers,” before the Postal Regulatory Commission and related to the Statutory Review of the System for Regulating Rates and Classes for Market Dominant Products, in Docket No. RM2017-3 (February 2020)
- “Evaluation, Measurement and Verification Plan for the PC44 Time-of-Use Rate Pilots,” with Sanem Sergici and Ahmad Faruqui, prepared for Maryland Public Service Commission PC44 Rate Design Work Group (June 2018)
- “Rate of Return Analysis of GCI’s TERRA Network,” with William P. Zarakas and Agustin J. Ros, prepared for GCI Communication Corp. (March 2018)
- “Report of Dr. Kevin Neels and Dr. Nicholas Powers to Accompany UPS Comments in Docket No. RM2016-12,” before the Postal Regulatory Commission, related to costing principles in the highway transportation segment; reply report also submitted (October 2016)
- “Peeking Over the Blendwall: An Analysis of the Proposed 2017 Renewable Volume Obligations,” with Marc Chupka, J. Michael Hagerty, and Sarah Germain, prepared for Growth Energy; filed with comments in Docket EPA-HQ-OAR-2016-0004 (July 2016)

ACADEMIC PUBLICATIONS

- “Competitive Effects of Exchanges or Sales of Airport Landing Slots,” with James D. Reitzes, Brendan McVeigh, and Samuel Moy, *Review of Industrial Organization* (August 2014)
- “Measuring the Impact of the Toxics Release Inventory: Evidence from Manufacturing Plant Births,” US Census Bureau Center for Economic Studies Working Paper Series (March 2013)
- “Does Disclosure Reduce Pollution? Evidence from India’s Green Rating Project,” with Allen Blackman, Thomas P. Lyon, and Urvashi Narain, *Environmental and Resource Economics* (March 2011)
- “Do State Renewable Portfolio Standards Promote In-state Renewable Generation?” with Haitao Yin, *Energy Policy* (February 2010)

OTHER REPORTS AND ARTICLES

- “Will Merger Improve the Financial Performance of CP and KCS?” with Kevin Neels and Ivy Young. *Journal of Transportation Law, Logistics and Policy* (December 2022)
- “Differing Proof Requirements for Global Class Actions: Using Economic Analysis to Guide Future Policymakers,” with John Roberti and Kelse Moen. *Antitrust Magazine* (August 2021)

- “Power to Memphis: Options for a Reliable, Affordable, and Greener Future,” with Jürgen Weiss, Judy Chang, and Kai Van Horn, prepared for Friends of the Earth (January 2019)
- “Valuation of Electric Power System Services and Technologies,” with Ira H. Shavel, Michael Hagerty, Yingxia Yang, and Roger Lueken, prepared for the US Department of Energy, Office of Electricity Delivery and Energy Reliability (August 2016)
- “Electricity Baseline Report for the US Power System,” with Ira Shavel, J. Michael Hagerty, and Yingxia Yang, prepared for Pacific Northwest National Laboratory and the US Department of Energy (April 2015)
- “Developing a Market Vision for MISO – Supporting a Reliable and Efficient Electricity System in the Midcontinent,” with Samuel A. Newell and Kathleen Spees, prepared for the Midcontinent Independent System Operator, Inc. (MISO) (January 2014)

SELECTED PRESENTATIONS

- “The Incremental Cost Test When Technology Choice is Endogenous” at the Center for Research in Regulated Industries Eastern Conference (2018)
- “Analyzing the Competitive Effects of Exchanges or Sales of Airport Landing Slots” at the International Industrial Organization Conference (2012)
- “The Toxics Release Inventory and Manufacturing Plant Births” at Penn State University (2010), University of Maryland (2010), US Census Center for Economic Studies (2009)
- “Does Disclosure Reduce Pollution? Evidence from India's Green Rating Project”, at Association for Public Policy Analysis and Management Fall Conference (2009), Allied Social Sciences Association Annual Meetings (2008), Southern Economics Association Annual Meetings (2007)

SELECTED HONORS & AWARDS

2022	<i>Concurrences</i> Antitrust Writing Awards: Best Article in the Business, Private Enforcement Category, for the article “Differing Proof Requirements for Global Class Actions: Using Economic Analysis to Guide Future Policymakers,” with John Roberti and Kelse Moen. <i>Antitrust Magazine</i> (August 2021)
2005–2009	Fred and Barbara Erb Fellowship, University of Michigan
2007	Thomas W. Leabo Memorial Award, University of Michigan

PROFESSIONAL ASSOCIATIONS & MEMBERSHIPS

American Economic Association

American Bar Association – Antitrust Section

DARRELL B. CHODOROW

Principal

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Darrell.Chodorow@brattle.com

Mr. Chodorow has more than 25 years of experience in commercial damages, valuation, and tax matters.

He specializes in analyzing complex business and financial issues in the context of damages quantification, asset valuation, and evaluating the substance of transactions. His work has covered a wide variety of industries, and he has specialized expertise in the energy and natural resources sectors. *Who's Who Legal's* guides have identified Mr. Chodorow as a global leader in Arbitration, Litigation, and Financial Advisory & Valuation: Quantum of Damages.

Commercial Damages: Mr. Chodorow advises clients on damages in investor-state arbitration, commercial arbitration, and litigation. He has served as a damages expert in disputes involving investment treaties, commercial contracts, M&A transactions, intellectual property, insurance claims, and antitrust disputes. He has served as an expert in cases before US federal and state courts; the District Court of Cyprus; and arbitrations before AAA, BCCC, ICC, ICDR, ICSID, JAMS, LCIA, PCA, and ad hoc tribunals.

Business and Asset Valuation: Mr. Chodorow has valued businesses, financial instruments, and tangible and intangible assets. He has valuation experience in multimillion- and multibillion-dollar matters in a variety of sectors, including agricultural products, cement, chemicals, financial products, gaming, mining, oil and gas, and electricity.

Tax Disputes: Mr. Chodorow has advised the Internal Revenue Service, the US Department of Justice, and taxpayers on matters related to economic substance, business purpose, research tax credits, transfer pricing, hedging, and asset valuation. He has been engaged as an expert for disputes in US Tax Court and federal court.

EDUCATION

1995	Yale School of Management MBA
1991	Brandeis University BA, Economics

PROFESSIONAL EXPERIENCE

1997–Present	The Brattle Group Principal (2005–Present) Associate (1997–2005)
1995–1997	Booz Allen & Hamilton Associate Energy, Chemicals and Pharmaceuticals Group

DARRELL B. CHODOROW

1991–1993	The Brattle Group Research Analyst
1989–1991	Global Petroleum Trading Assistant

SELECTED CONSULTING EXPERIENCE**Commercial Damages – Investor-State and Commercial Arbitration**

- **International Centre for the Settlement of Investment Disputes**

In *Legacy Vulcan, LLC v. United Mexican States*, filed an expert report estimating damages of US\$1.1 billion for the claimant arising from that alleged NAFTA violations by the respondent.

- **London Court of International Arbitration**

A distributor brought a claim against a solar module manufacturer for providing alleged non-conforming products under the United Nations Convention on Contracts for the Sale. Retained by the respondent to testify about the reliability of the distributor's €200 million damages claim.

- **ICC International Court of Arbitration**

In the acquisition of a Japanese cosmetics business, the seller was alleged to have misrepresented its ownership of certain intellectual property. Testified on behalf of the seller about the proposed adjustment to purchase consideration to account for the alleged misrepresentation in a Singapore arbitration.

- **Permanent Court of Arbitration in The Hague**

In *Bilcon of Delaware, et al. v. Government of Canada*, testified on behalf of Canada evaluating the reliability of the claimant's US\$443 million damages calculation arising under NAFTA from a flawed permit review process.

- **Brazil-Canada Chamber of Commerce**

A manufacturer experienced a major equipment failure at its largest production facility, and entered into arbitration with its insurance provider over covered losses. On behalf of the manufacturer, estimated the recoverable business interruption losses and material damages in excess of US\$400 million.

- **International Centre for Dispute Resolution**

In a corporate acquisition, the buyer obtained an insurance policy to protect against breaches of the seller's representations and warranties. In a dispute between the buyer and its insurer, estimated the buyer's losses to be approximately US\$120 million from the seller's alleged breach.

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Commercial Damages – Court Proceedings

- In a lawsuit brought by the City of Ontario, California against Los Angeles World Airports, submitted an expert report evaluating the reliability of the plaintiff's claim for over US\$3 billion in damages for alleged mismanagement of the Ontario airport.
- On behalf of plaintiffs' counsel, submitted a declaration evaluating whether the proposed distribution plan for a US\$2.7 billion settlement fund was economically reasonable for *In Re Blue Cross Blue Shield Antitrust Litigation, MDL 2406*.
- Provided expert testimony assessing the damages analysis underlying the request for a US\$50 million bond in a Lanham Act matter.
- In a lawsuit over an exclusive pharmaceutical distribution agreement for the former Soviet Union, testified on the reliability of a damages claim in excess of US\$300 million arising from the supplier's alleged breach of contract.
- Served as an expert on damages cases involving intellectual property disputes in the biotechnology, consumer products, chemicals, infrastructure, and the entertainment & leisure sectors.
- For a manufacturer of industrial pumps, served as an expert on damages in a dispute over a distribution agreement and the accompanying option to purchase the supplier.

Valuation

- Oil and gas industry engagements
 - Advised a board of directors on the valuation impact of a proposed refinery upgrade.
 - Evaluated the reliability of the methodology and conclusions reached in an appraisal of a multibillion-dollar petroleum refining and marketing business.
 - Valued crude oil reserves.
 - Valued the impact of a proposed injunction delaying a coalbed methane project.
 - Valued lease interests in the Marcellus shale.
 - Analyzed the value of liquefied natural gas (LNG) supply agreements.
 - Quantified the loss from a buyer's failure to take delivery under a supply agreement.
- In a dispute over a gaming license in Macau, valued the gaming business resulting from a multibillion-dollar investment program relying on the license.
- Advised on the fair market value of assets during negotiations over the sale of a controlling stake in a large cement, aggregates, and ready-mix concrete business.

DARRELL B. CHODOROW

- For an entrepreneur considering the purchase of hydroelectric generating assets, estimated the fair market value of the target assets.
- Advised a client on the valuation of online gaming assets that generated net gaming revenues of nearly US\$1 billion per year.
- On behalf of a potential acquirer, assisted in the valuation of transmission assets being offered for sale by a vertically-integrated electric utility.
- Experienced in valuing a wide variety of financial instruments.

Tax

- *Roy E. Hahn and Linda G. Montgomery v. Commissioner of Internal Revenue*
Testified on behalf of the IRS regarding the potential for economic profit and non-tax business purpose of a custom adjustable rate debt structure (CARDS) transaction.
- Retained to serve as an expert on behalf of the US Government to evaluate the potential for economic profits and non-tax business purpose for structured transactions referred to as distressed asset/debt (DAD), bond-linked issue premium structure (BLIPS), and oil & gas development partnership transactions. All three cases settled prior to report filings.
- Submitted an expert report valuing crude oil reserves worth nearly US\$1 billion in a tax basis dispute and presented on behalf of the taxpayer before an IRS appeals panel.
- Served as consulting expert on high-profile tax cases, including:
 - *Klamath Strategic Investment Fund LLC v. U.S.* (BLIPS)
 - *United States v. Woods* (Son of Boss)
 - *Country Pine Finance, LLC v. Commissioner of Internal Revenue* (CARDS)
 - *Southgate Master Fund LLC. v. United States* (DAD)
 - *Wells Fargo & Company v. United States* (STARS)
- In a variety of matters, advised taxpayers on transfer pricing issues both for advance pricing agreements and in the course of litigation. Industries analyzed include liquefied natural gas, mining, commodities trading, insurance, and pharmaceuticals.
- On behalf of taxpayers, evaluated the economic benefits and burdens borne by companies under contracts involved in disputes over research tax credits and Section 199 domestic production deductions.
- On behalf of the IRS, evaluated the economic reasonableness of a taxpayers' claimed tax treatment of hedging transactions conducted using exotic derivatives in multiple cases.

DARRELL B. CHODOROW**TESTIMONY AND EXPERT REPORTS***Manatee Minerals, LLC v. Commissioner of Internal Revenue*

- US Tax Court, Docket No. 29170-21
 - Expert Report

Palmetto Waters, LLC v. Commissioner of Internal Revenue

- US Tax Court, Docket No. 2353-22
 - Expert Report

Halyard Holdings, LLC v. Commissioner of Internal Revenue

- US Tax Court, Docket No. 14145-21
 - Expert Report

Agrizap, Inc. v. Woodstream Corp., et al.

- US District Court for the Eastern District of Pennsylvania, Civil Action No. 04-3925
 - Expert Report

Alabama S&G, LLC v. Commissioner of Internal Revenue

- US Tax Court, Docket No. 7703-19
 - Expert Report and Court Testimony

AMG Vanadium LLC v. Mitchell E. Kidd, et al.

- US District Court for the Eastern District of Pennsylvania, Civil Action No. 18-cv-4301 (JLS)
 - Expert Report

Bilcon of Delaware Inc. et al v. Government of Canada

- Permanent Court of Arbitration, Case No. 2009-04
 - Expert Report and Hearing Testimony

BRG Operating Company LLC, Bluescape Resource Company LLC, Tax Matters Partner, et al., v. Commissioner of Internal Revenue

- US Tax Court, Docket Nos. 12922-16, 12923-16
 - Expert Report and Deposition Testimony

City of Ontario v. City of Los Angeles, Los Angeles World Airport, and Los Angeles Board of Airport Commissioners

- Superior Court of California, Case No. RIC 1306498
 - Expert Report and Deposition Testimony

Confidential AAA Arbitration

- Related to the mutual fund industry (New York)
 - Expert Report, Deposition Testimony, and Hearing Testimony

DARRELL B. CHODOROW**Confidential Brazil-Canada Chamber of Commerce Arbitration**

- Related to economic losses in an insurance dispute in the paper and allied products industry
 - Expert Report

Confidential ICC Arbitrations

- Regarding alleged misrepresentations in a cosmetics industry acquisition (Singapore)
 - Expert Report and Hearing Testimony
- Related to the alleged breach of a share purchase agreement in the pulp & paper industry
 - Expert Report
- Regarding the construction contract for a hydroelectric dam in Central America (New York)
 - Expert Report and Hearing Testimony
- Regarding the alleged breach of a pharmaceutical distribution agreement
 - Expert Report and Hearing Testimony

Confidential ICDR Arbitration

- Related to a claim on an insurance policy covering the alleged breach of representations and warranties in an energy industry acquisition (New York)
 - Expert Report and Hearing Testimony

Confidential JAMS Arbitration

- Regarding the alleged breach of contract to administer and underwrite home warranties
 - Expert Report and Deposition Testimony

Confidential LCIA Arbitration

- Regarding the delivery of allegedly defective solar modules (Singapore)
 - Expert Report

Confidential Tax Disputes Before the IRS Independent Office of Appeals

- Expert Report and presentation on the value of a working interest in crude oil reserves with expected production of approximately 300 million barrels of oil
- Expert Report and presentation evaluating the economic purpose for the acquisition of \$255 million in notional of credit default swaps on subprime mortgages

Confidential Tax Dispute Regarding Claimed Hedge Using Credit Default Swaps

- Presentation to IRS Appeals Panel

Coverings Space NJ, Inc. v. Adele, et al.

- Superior Court of New Jersey, Civil Action HUD-L-3730-06
 - Expert Report and Deposition Testimony

DARRELL B. CHODOROW***Embrex, Inc. v. Avitech, L.L.C.***

- US District Court for the Middle District of North Carolina, Civil Action No. 1:04CV00693
 - Expert Report

Enel Green Power S.p.A. v. Republic of El Salvador

- ICSID, Case No. ARB/13/18
 - Expert Report

ErinMedia, LLC v. Nielsen Media Research, Inc.

- US District Court for the Middle District of Florida, Civil Action No. 8:05-CV-1123-T24-EAJ
 - Expert Report and Deposition Testimony

Excelsior Aggregates, LLC v. Commissioner of Internal Revenue

- US Tax Court, Docket No. 20608-18
 - Expert Report and Court Testimony

Halyard Holding LLC v. Commissioner of Internal Revenue

- US Tax Court, Docket No. 14145-21
 - Expert Report

Hydro-Fraser Inc., Société d'energie Columbus Inc., Ayers Ltée v. Hydro Québec

- Ad hoc arbitration
 - Expert Report and Hearing Testimony

IC Power Asia Development Ltd. v. Republic of Guatemala

- UNCITRAL Arbitration
 - Expert Report and Hearing Testimony

In Re Blue Cross Blue Shield Antitrust Litigation, MDL 2406

- Northern District of Alabama Southern Division, Master File 2:13-cv-20000-RDP
 - Expert Declaration

Kaloti Metals & Logistics, LLC v. The Republic of Peru

- ICSID Case No. ARB/21/29
 - Expert Reports and Hearing Testimony

Kayat Trading Ltd. v. Genzyme Corporation

- Cyprus District Court, Nicosia District
 - Expert Report and Court Testimony

Legacy Vulcan, LLC v. United Mexican States

- ICSID, Case No. ARB/19/1

DARRELL B. CHODOROW

- Expert Reports and Hearing Testimony

Manatee Minerals LLC v. Commissioner of Internal Revenue

- US Tax Court, Docket No. 29170-21
 - Expert Report

Norfolk Southern Railway Company v. Drummond Coal Sales, Inc.

- US District Court for the Western District of Virginia, Civil Action No. 7:08CV00340
 - Expert Report

Palmetto Waters, LLC v. Commissioner of Internal Revenue

- US Tax Court, Docket No. 2353-22
 - Expert Report

Perfetti Van Melle USA and Perfetti Van Melle Benelux v. Cadbury Adams USA LLC

- US District Court for the Eastern District of Kentucky, Civil Action No. 2:10-CV-35-DLB
 - Expert Declaration and Court Testimony

PDZ Holdings Pty Ltd et al v. Republic of Poland

- Permanent Court of Arbitration, Case No. 2020-52
 - Expert Report and Hearing Testimony

PDZ (UK) Limited and PD Co Holdings (UK) Limited v. Republic of Poland

- Permanent Court of Arbitration, Case No. 2021-06
 - Expert Report and Hearing Testimony

Petroplast Petrofisa Plasticos S.A. and Petrofisa Do Brazil, Ltda v. Ameron International Corp.

- Delaware Court of Chancery, Civil Action No. 4304-VCP
 - Expert Report, Deposition Testimony, and Court Testimony

Resolute FP US, Inc. v. New-Indy Catawba LLC

- Supreme Court of the State of New York, Index No. 652961-2019
 - Expert Report

Robert Rockwood and Roxanna Marchosky v. SKF USA, Inc.

- US District Court for the District of New Hampshire, Civil Action No. 1:08-CV-00168
 - Expert Report

Roy E. Hahn and Linda G. Montgomery v. Commissioner of Internal Revenue

- US Tax Court, Docket No. 1910-14
 - Expert Report and Court Testimony

DARRELL B. CHODOROW

SCS Interactive, Inc. and Whitewater West Industries Ltd v. Vortex Aquatic Structures International Inc.

- US District Court of Colorado, Civil Action No. 09-cv-01732-REB-KLM
 - Expert Report

SoBe Entertainment International, LLC v. Paul Wight a/k/a "The Big Show," Bess Wight f/k/a Bess Katramados, and World Wrestling Entertainment, Inc.

- Circuit Court for Miami-Dade County, Case No. 09-45461 CA 09
 - Expert Declaration

The Northern Cheyenne Tribe v. Gale A Norton, Secretary of the Interior and Fidelity Exploration and Production Company

- US District Court for the District of Montana, Billings, Civil Action No. CV-03-00078-RWA
 - Expert Declaration

Theodore David Einarsson, Harold Paul Einarsson, Russell John Einarsson and Geophysical Service Incorporated v. Government of Canada

- ICSID Case No. UNCT/20/6
 - Expert Report

DARRELL B. CHODOROW**PUBLICATIONS AND PRESENTATIONS**

“Quantum in Oil and Gas and Mining Arbitrations,” The Guide to Damages in International Arbitration, Fifth Edition, with F. Dorobantu and F. Bañez (November 2022).

“Introduction to M&A Disputes,” with Y. Austin Smith (June 2021).

“Damages in Oil & Gas and Mining Arbitrations,” The Guide to Damages in International Arbitration, Fourth Edition, with F. Dorobantu (February 2021).

“Valuing Natural Resources Investments,” *Contemporary and Emerging Issues on the Law of Damages and Valuation in International Investment Arbitration*, with R. Caldwell and F. Dorobantu (May 2018).

“An Economic Evaluation of ‘Funding’ for Research Tax Credits,” with S. Ledgerwood. *Tax Notes*, Volume 144, Number 13: 1593 (September 2014).

Credit, Where Credit is Due: An Economic Approach to Evaluating the Issue of ‘Funding’ in Research Tax Credit Claims, with S. Ledgerwood, white paper (February 2014).

“The BP Royalty Trust: Warning of Impending Price Declines or a Failing Economic Indicator,” *Notes at the Margin*, with P. Verleger (September 2012).

The Economic Implications of the Texas Waiver on Petroleum Markets and the Broader Economy, with P. Verleger, white paper, (June 2008).

“Regulation and Deregulation of US Industries,” guest lecturer, University of Virginia School of Law (February 2008).

“Standards for Consulting Firms Working with Academic Experts,” presented Law Seminars International’s Expert Testimony in Litigation Conference, Reston, VA (December 2004).

“Stages of Power Plant Development – A Survey,” with F. Graves, presented at “Boom-Bust” in the Electric Power Industry, Cambridge, MA (August 2000).

“The FERC, Stranded Cost Recovery, and Municipalization,” coauthor, *Energy Law Journal*, Vol. 19 (2), pp. 351–386 (1998).

“What’s in the Cards for Distribution Companies,” with P. Hanser and J. Pfeifenberger, presented at The Electricity Distribution Conference, Denver, CO (April 1998).

“Distributed Generation: Threats and Opportunities,” with P. Hanser and J. Pfeifenberger, presented at The Electricity Distribution Conference, Denver, CO (April 1998).

L. Shea Peretz

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EDUCATION

Wesleyan University, Middletown, CT

May 2021

Bachelor of Arts with Honors

- **Major:** College of Social Studies (Economics, Government, History, and Political and Social Theory), Comprehensive Exam Award: *Distinction*; **Major:** Government, with a concentration in International Relations; **Minor:** Data Analysis
- **Recipient of the White Fellowship** for Government majors who show excellence in the study of political science
- Relevant Coursework: Applied Data Analysis, Advanced R: Data Science Tools, Data Journalism, Introduction to Financial Accounting, International Political Economy, Quantitative Methods for Economics, Introduction to Economics, Data Visualization

WORK EXPERIENCE

Senior Research Analyst, Research Analyst

July 2021 - Present

The Brattle Group, Boston, MA, and Washington, D.C.

- Used R, PySpark, STATA, and Databricks to clean, analyze, and visualize data for expert reports and research papers
- Completed Data Specialist Certification program and created a program to systematically web scrape and clean auction data for use in analyses for Brattle's Telecommunications Practice
- Co-authored a research paper and various filings for the Federal Communications Commission (FCC) investigating prison telecommunications calling rates and created a cost model for which to base reasonable rate caps
- Presented results of complex analyses and damages calculations to clients, attorneys, and the FCC
- Conducted market research and used econometric and financial models to estimate damages for expert reports
- Trained junior research analysts in programming, data analysis, frequently used economic models, and report drafting

Research Analyst Intern

June-August 2020

The Brattle Group, Boston, MA

- Utilized Excel to clean, inspect, and analyze utility data to support a business development project and case regression
- Conducted academic literature reviews to find new data sources and research for several export reports and projects
- Completed six weeks of trainings involving Excel, R, economic research, and client presentations

Government Department Research Assistant for Professor Sarah Wiliarty

September 2019 – September 2020

*Wesleyan University, Middletown, CT***Marketing and Sales Intern**

June – August 2019

Ultimate Kronos Group, Weston, FL

- Reviewed 16,000+ prospect records to organize and verify potential business opportunities and maintained system of records (Salesforce), resulting in a more accurate and complete customer database
- Examined incomplete customer records to identify missing industry codes which assisted the analytics team to identify likely opportunities by industry

EXTRACURRICULARS AND LEADERSHIP ACTIVITIES

Chair of Social Justice Committee

May 2019 – May 2020

Rho Epsilon Pi Sorority, Wesleyan University, Middletown, CT

- Planned a variety of events relating to diversity and inclusion and education about sexual assault awareness

TerpCore Director, Choreographer, and Dancer

January 2019 – June 2021

Wesleyan University, Middletown, CT

- Planned and participated in board meetings, rehearsals, and auditions for student-choreographed charity dance shows

Team Member

September 2017 – March 2020

Wesleyan University Diving Team, Middletown, CT

- Competed at the Division 3 level for two years, switched to a management position in 2019

SKILLS AND INTERESTS

- Intermediate proficiency in Spanish (written and oral) and American Sign Language
- Proficient in Microsoft Word, Microsoft PowerPoint, and Microsoft Excel
- Proficient in Stata and R for Data Analysis